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Madison  
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In Cooperation  
with the  
University  
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# List of Publications

## Biodegradation and Preservation of Wood

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This list includes publications that present the results of research by the Forest Products Laboratory in this particular field of wood products research.

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Title	Author	Publication and date
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### DETERIORATION

#### Stain and Decay

Requirements for cellulose degradation by a brown-rot fungus.	: Highley, T. L.	: Mater. und Organismen 12(1):25-36. 1978.
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Title	Author	Publication and date
<u>DETERIORATION--Cont.</u>		
<u>Stain and Decay--Cont.</u>		
The chemistry and physiology of the fungal degradation of lignin.	: Kirk, T. K., : Yang, H. H., and : Keyser, P.	: Developments in Indus- : trial Microbiology : 19:51-61. 1978.
Degradation of cellulose by culture filtrates of <i>Poria</i> Placenta.	: Highley, T. L. : :	: Mater. und Organ- : ismen 12(3):161-174. : 1978.
Controlling decay in above-water parts of waterfront structures.	: Highley, T. L. and : Scheffer, T. C.	: Forest Prod. J. 28(12): : 40-43. 1978.
Losses during storage of southern pine chips: The case for standby storage.	: Springer, E. L. : :	: Tappi 61(5):69-72. : 1978. :
Hemicellulases of white- and brown-rot fungi in relations to host preferences.	: Highley, T. L. : :	: Mater. und Organismen : II I, p. 33-46. 1977. :
Protecting log cabins from decay.	: Rowell, R., Black, J., : Gjovik, L., and : Feist, W.	: USDA Forest Serv. Gen. : Tech. Rep. FPL-11. 1977. :
Effect of light quality on development of fruiting bodies of <i>Panus fragilis</i> .	: Miller, O., and : Palmer, J. :	: USDA Forest Serv. Res. : Pap. FPL 300. 1977. :
Wood preservative degradation by marine bacteria.	: Eslyn, W. E. : : : :	: Proc. of the 3rd Int. : Biodegradation Symp. : Appl. Sci. Publ. Ltd., : London, p. 979-986. : 1976.
Wood decay ecosystem in residential construction.	: DeGroot, R. C. : : :	: Proc. of Pap. presented : at the XVIth IUFRO World : Congress, p. 334-352. : 1976.
Some wood-staining fungi from pulpwood chips.	: Eslyn, W. E. : :	: Memoirs of the NY Botan- : ical Garden 28(1): : 50-57. 1976.

Title	Author	Publication and date
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#### DETERIORATION--Cont.

##### Stain and Decay--Cont.

Some wood--staining fungi from pulpwood chips.	: Eslyn, W. E.	: Memoirs of the NY Botanical Garden 28 (1):50-57. 1976.
SEM observations of brown-rot fungus <i>Poria Placenta</i> in normal and compression wood of <i>Picea</i> <i>Abies</i> .	: Jutte, S. M., and Sachs, I. B.	: In Scanning Electron Microscopy/1976. (Part VII) Proc. of the SEM, p. 535-542. IIT Res. Inst., Chicago. Apr. 1976.
Storage of aspen whole-tree chips under laboratory conditions.	: Zoch, L. L., Jr., Springer, E. L., and Hajny, G. J.	: USDA Forest Serv. Res. Pap. FPL 288. 1976.
Appraising deterioration in submerged piling.	: Eslyn, W. E., and Clark, J. W.	: Organisms and Wood: Int. Symp., Berlin-Dahlem, 1975. Supplement 3 to Mater. und Organismen, p. 43-52. 1976.
Degradation of wood byproducts of metal corrosion.	: Baker, A. J.	: USDA Forest Serv. Res. Pap. FPL 229. 1974.
How anaerobic storage affects quality of Douglas-fir pulpwood chips.	: Eslyn, W. E., and Laundrie, J. F.	: Tappi 56(7):129-131. July 1973.
Wood minesweepers are sound after 15 years of service.	: Highley, T. L., Scheffer, T. C., and Selbo, M. L.	: Forest Prod. J. 21(5): 46-48. May 1971.
Utility pole decay. Part II: <i>Basidiomycetes</i> associated with decay in poles.	: Eslyn, W. E.	: Wood Sci. & Tech. 4(1970):97-103. 1970.
Protecting stored logs and pulpwood in North America.	: Scheffer, T. C.	: Mater. und Organismen 4(3):167-199. 1969.

##### Durability

Comparison of outdoor and accel- erated weathering of unprotected softwoods.	: Feist, W. C., and Mraz, E. A.	: Forest Prod. J. 28(3): 38-43. 1978.
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Title	Author	Publication and date
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#### DETERIORATION--Cont.

##### Durability--Cont.

Decay resistance and susceptibility of sapwood of fifteen tree species.	: Eslyn, W. E., and : Highley, T. L. :	: Phytopathol. 66: : 1010-1-17. 1976. :
A need for modifying the soil-block method for testing natural resistance to white rot.:	: Highley, T. L., and : Scheffer, T. C. :	: Mater. und Organismen : 5(4):281-292. 1970. :
Decay resistance of four wood species treated to destroy thiamine.	: Highley, T. L. : :	: Phytopathol. 60(11): : 1660, 1661. Nov. 1970. :
Natural decay resistance of 30 Peruvian woods.	: Highley, T. L., and : Scheffer, T. C.	: USDA Forest Serv. Res. : Pap. FPL 143. 1970.
Comparative decay resistance of heartwood of native species.	: Forest Products : Laboratory	: U.S. Forest Serv. Res. : Note FPL-0153. 1967.
Factors influencing decay of untreated wood.	: Forest Products : Laboratory	: U.S. Forest Serv. Res. : Note FPL-0154. 1967.

##### Insect and Marine Animal Attack

Insecticidal baits on field plot: perimeters suppress Reticulitermes.	: Esenther, G. R., and : Beal, R. H. :	: J. Econ. Entomol. : 71:604-607. 1978. :
Fluctuation of survival, growth, and differentiation in biweekly samples of Reticulitermes Flavipes workers.	: Esenther, G. R. : :	: Mater. und Organismen : 12(1):49-58. 1977. : :
Nutritive supplement method to evaluate resistance of natural or preservative-treated wood to subterranean termites.	: Esenther, G. R. : : :	: J. of Econ. Entomology : 70(3):341-346. 1977. : :

Title	Author	Publication and date
-----	-----	-----

#### DETERIORATION--Cont.

##### Insect and Marine Animal Attack

SEM observations of teredo attack of tropical hardwoods in brackish water.	: Jutte, S. M., and : Sachs, I. B. : : : : :	: Scanning Electron Micro- : scopy/1976 (Part VII). : Proc. of the Workshop : on Plant Science Appli- : cations of the SEM. : p. 555-562. IIT Res. : Inst., Chicago. : Apr. 1976.
Attractant-mirex bait suppresses activity of <i>Reticulitermes</i> spp.	: Esenther, G. R., and : Beal, R. H. :	: J. of Econ. Entomology : 67(1):85-88. : Feb. 1974.
Catabolism of aspen sapwood in <i>Reticulitermes flavipes</i> (Isoptera: Rhinotermitidae).	: Esenther, G. R., and : Kirk, T. K. :	: USDA, For. Serv., : For. Prod. Lab. : Madison, Wis. 1974.

#### PRESERVATIVES

##### Application Methods

Protecting wooden structures.	: Feist, W. C. :	: Chemtech, p. 160-162. : 1978.
Nontoxic wood preservation treatments.	: Rowell, R. M. :	: Wood and Wood Prod. : 83(2):81-82. 1978.
Ammoniacal copper borate: A new treatment for wood preservation.	: Johnson, B. R., and : Gutzmer, D.	: Forest Prod. J. 29(2): : 33-35. 1978.
Protecting woodwork without preservatives.	: Feist, W. C. :	: Forest Prod. Lab. : R&A Unnumbered Rep. 1978.
Protecting millwork with water repellents.	: Feist, W. C., and : Mraz, E. A.	: Forest Prod. J. 28(5): : 31-35. 1978.
Wood finishing: Water repellents and water-repellent preservatives.	: Feist, W. C., and : Mraz, E. A. :	: USDA Forest Serv. Res. : Note FPL-0124. 1978. :
Save wood--End-treat stored maple and birch logs.	: DeGroot, R. C., and : Eslyn, W. E.	: Forest Prod. Lab. R&A : Unnumbered Rep. 1978.

Title	Author	Publication and date
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PRESERVATIVES--Cont.

Application Methods--Cont.

Nonconventional wood preservation methods.	: Rowell, R. M.	: Wood Tech.:
	:	: Chem. Aspects,
	:	: p. 47-56. 1977.
Selection, production, procurement and use of preservative-treated wood, supplementing Federal Specification TT-W-571.	: Gjovik, L. R., and : Baechler, R. H.	: USDA Forest Serv. Gen. : Tech. Rep. FPL-15. : 1977.
	:	:
Improving paint performance on southern pine by relief of machining stresses and chromic acid treatment.	: Black, J. M., and : Mraz, E. A.	: USDA, For. Serv. Res. : Pap. FPL 271. 1976.
	:	:
Experimental preservative treatment of three tropical hardwoods by double-diffusion processes.	: Johnson, B. R., and : Gonzalez, T.G.E.	: Forest Prod. J. 26(1): : 39-46. Jan. 1976.
	:	:
Natural exterior finishes for wood in the Pacific Northwest.	: Grantham, J. B., : Black, J. M., : Heebink, T. B., and : Mraz, E. A.	: Forest Prod. J. 26(8): : 21-27. 1976.
	:	:
Reaction of alkylene oxides with wood.	: Rowell, R. M.	: In Chap. 8, Cellul. : Tech. Res. Albin F. : Turbak, ed. Symp., : Cellul., Pap., and : Text. Div., 168th Ann. : Meet., Amer. Chem. : Soc., Atlantic City, : N.J., p. 116-124. : 1975.
	:	:
In-place treatment of simulated waterfront structures for decay control.	: Highley, T. L., and : Scheffer, T. C.	: Mater. und Organismen : 10(1):57-66. 1975.
	:	:
Treatability of coast Douglas-fir Press-Lam.	: Tschernitz, J. L., : Miniutti, V. P., and : Schaffer, E. L.	: AWPAC Proc. 1974. : 17 p.
	:	:



Title	Author	Publication and date
-------	--------	----------------------

# PRESERVATIVES--Cont.

## Application Methods--Cont.

Inorganic surface treatments for weather-resistant natural finishes.	Black, J. M., and Mraz, E. A.	: USDA For. Serv. Res. : Pap. FPL 232. 1974.
A treatment that shows promise for preserving stored wood chips.	Springer, E. L., Zoch, L. L., Jr., Feist, W. C., and Hajny, G. J.	: USDA For. Serv. Res. : Pap. FPL 216. 1973.
Is wood hardness affected by preservative treatment?	Ethington, R. L.	: For. Prod. J. 22(5): : 60, 61. May 1972.
Dual treatment of marine piles: Predrying and treatment.	Davidson, H. L., and Gjovik, L. R.	: Amer. Wood Preserv. : Assoc. Proc. 68: : 162-167. 1972.
Vacuum treatment of lumber.	Blew, J. O., Panek, E., and Roth, H. G.	: Forest Prod. J. 20(2): : 40-47. Feb. 1970.
Retention and distribution of waterborne preservative in redwood treated at different moisture levels.	Blew, J. O., Roth, H. G., and Davidson, H. L.	: Amer. Wood Preserv. : Assoc. Proc. 64:203-209. : 1968.
Longitudinal permeability of wood to gases and nonswelling liquids.	Comstock, G. L.	: Forest Prod. J. 17(10): : 41-46. Oct. 1967.

## Evaluation of Treatments

Residual pentachlorophenol still limits decay in woodwork 22 years after dip-treating.	Scheffer, T. C., and Eslyn, W. E.	: Forest Prod. J. : 28(1):25-30. 1978.
Distribution of bonded chemicals in southern pine treated with alkylene oxides.	Rowell, R. M.	: Wood Sci. 10(4): : 193-197. 1978.
Effectiveness of groundline treatments of creosoted pine poles under tropical exposure.	Chudnoff, M., Eslyn, W. E., and Wawriw, R.	: Forest Prod. J. 28(4): : 28-32. 1978.

Title	Author	Publication and date
-------	--------	----------------------

PRESERVATIVES--Cont.

Evaluation of Treatments--Cont.

Comparison of wood preservatives: Davidson, H. L.	:	USDA Forest Serv. Res.
in stake tests (1977 progress report).	:	Note FPL-02. 1977.
Effects of alkylene oxide treatments on dimensional stability of wood.	: Rowell, R. M., : Gutzmer, D. I., : Sachs, I. B., and : Kinney, R. E.	: Wood Sci. 9(1): : 51-54. 1976.
Winter treatments protect birch roundwood during storage.	: Scheffer, T. C., and : Eslyn, W. E.	: Forest Prod. J. 26(1): : 27-31. Jan. 1976.
Evaluation of five treatments to prevent deterioration of wood chips during storage in pile simulators.	: Springer, E. L., : Feist, W. C., : Zoch, L. L., Jr., and : Hajny, G. J.	: Tappi 58(3):128-131. : 1975.
Comparison of wood preservatives in Mississippi post study (progress report).	: Blew, J. O., and : Davidson, H. L.	: USDA Forest Serv. Res. : Note FPL-01. 1975.
Service records on treated and untreated fence posts.	: Blew, J. O., and : Kulp, J. W.	: U.S. Forest Serv. Res. : Note FPL-068. 1975.
Leachability of pentachlorophenol from red oak.	: Johnson, B. R., : Gjovik, L. R., and : Caulfield, D. F.	: USDA Forest Serv. Res. : Pap. FPL 266. 1975.
Service records on treated and untreated fenceposts.	: Gjovik, L. R., and : Davidson, H. L.	: USDA Forest Serv. Res. : Note FPL-068. Rev. : 1975.
The characterization of wood-preserving creosote by physical and chemical methods of analysis.	: Nestler, F. H. M.	: USDA Forest Serv. Res. : Pap. FPL 195. 1974.
Comparison of wood preservatives in Mississippi post study (1977 progress report).	: Davidson, H. L.	: USDA For. Serv. Res. : Note FPL-01. 1977.

	: :		
Title	:	Author	: Publication and date
-----			

PRESERVATIVES--Cont.

Evaluation of Treatments--Cont.

Effect of alkaline treatment on decay resistance of wood.	: Highley, T. L.	: Forest Prod. J. 23(1): 47-51. Jan. 1974.
Evaluation of two chemical treatments in outside chip piles.	: Springer, E. L., : Feist, W. C., and : Zoch, L. L., Jr.	: USDA Forest Serv. Res. Pap. FPL 215. 1974.
Storing wood chips at elevated temperatures--effect of alkali pretreatment.	: Feist, W. C. : Springer, E. L., and : Hajny, G. J.	: Tappi 57(8):112-114. 1974.
Characterization of wood-preserving coal-tar creosote by gas-liquid chromatography.	: Nestler, F.H.M.	: Analyt. Chem. 46(1): 46-53. Jan. 1974.
Effectiveness of groundline treatments of creosoted pine poles under tropical exposure.	: Chudnoff, M., : Gjovik, L. R., and : Wawriw, R.	: Forest Prod. J. 23(9): 80-84. Sept. 1973.
New and effective chemical treatment to preserve stored wood chips.	: Springer, E. L., : Feist, W. C., : Zoch, L. L., Jr., and : Hajny, G. J.	: Tappi 56(6):157. June 1973.
Evaluating chemicals for controlling biodeterioration of stored wood chips.	: Eslyn, W. E.	: Forest Prod. J. 23(11): 21-25. Nov. 1973.
Treatment of Alaskan species by double-diffusion and modified double-diffusion methods.	: Gjovik, L. R., : Roth, H. G., and : Davidson, H. L.	: USDA Forest Serv. Res. Pap. FPL 182. 1972.
Evaluation of chemicals for preserving wood chips using pile simulators.	: Springer, E. L., : Feist, W. C., : Zoch, L. L. Jr., and : Hajny, G. J.	: Tappi 56(6):125-128. June 1973.
Single- and dual-treated panels in a semi-tropical harbor: Preservative and retention variables and performance.	: Johnson, B. R., : Gjovik, L. R., and : Roth, H. G.	: Amer. Wood Preserv. Assoc. Proc. 69: 207-215. 1973.

Title	Author	Publication and date
-------	--------	----------------------

PRESERVATIVES--Cont.

Evaluation of Treatments--Cont.

Comparison of wood preservatives: in stake tests (progress report):	Blew, J. O.	: USDA Forest Serv. Res. : Note FPL-02. 1973.
Interlaboratory testing of wood preservatives using ASTM D 1413-61.	: Smith, R. S., and : Gjovik, L. R. :	: Wood and Fiber 4(3): : 170-178. Fall 1972. :
Preservative retentions and penetration in the treatment of white fir.	: Blew, J. O., and : Davidson, H. L. :	: Amer. Wood Preserv. : Assoc. Proc. 66: : 204-219. 1971.
Fifteen-year appraisal of dip treating for protecting exter- ior woodwork: Effectiveness on different wood species and in various climates.	: Scheffer, T. C., : Verrall, A. F., and : Harvey, G. : :	: Mater. und Organismen : 6(1):27-44. 1971. : :
Retentions by gage and assay: How do they compare?	: Baechler, R. H. :	: Wood Preserv. 49(1): : 6-12. Jan 1971.
Marine tests on combination- treated round and sawed specimens.	: Baechler, R. H., : Gjovik, L. R., and : Roth, H. G.	: Amer. Wood Preserv. : Assoc. Proc. 66: : 249-255. 1970.
Quantitative differences in preservative penetration and retention in summerwood and	: Gjovik, L. R., : Roth, H. G., and : Lorenz, L. F.	: Amer. Wood Preserv. : Assoc. Proc. 66: : 260-262. 1970.
Assay zones for specifying preservative-treated Douglas-fir: and southern pine timbers.	: Baechler, R. H., : Gjovik, L. R., and : Roth, H. G.	: Amer. Wood Preserv. : Assoc. Proc. 65: : 114-121. 1969.
Relationship between permea- bility of green and dry eastern: hemlock.	: Comstock, G. L. :	: Forest Prod. J. 18(8): : 20-23. Aug. 1968. :
Preservative retention and distribution in several western conifers.	: Blew, J. O., : Roth, H. G., and : Davidson, H. L.	: Amer. Wood Preserv. : Assoc. Proc. 63:30-43. : 1967.



Title	:	Author	:	Publication and date
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### PRESERVATIVES--Cont.

#### Evaluation of Treatments--Cont.

Effects of various preservative treatments of field boxes on nail holding.	:	Scholten, J. A.	:	U.S. Forest Serv. Res. Pap. FPL 42. 1965.
Effects of wood preservatives on: electrical moisture-meter readings.	:	Forest Products Laboratory	:	U.S. Forest Serv. Res. Note FPL-0106. 1965.
Determination of residual creosote in disks from fender piling after 30 years' service in San Francisco-Oakland Bay bridge.	:	Baechler, R. H., and Alpen, R. M.	:	Amer. Wood Preserv. Assoc. Proc. 61: 256-260. 1965.

### GENERAL LITERATURE ON WOOD PRESERVATION

Companies that inspect the preservative treatment of wood products.	:	Forest Products Laboratory	:	FPL 79-007. 1979.
Wood deterioration.	:	Kirk, K., and Kirk, C.	:	McGraw-Hill, Yearbook of Sci. and Tech., McGraw-Hill Book Co., New York, NY., p. 389-391. 1978.
Wood preservation statistics 1977.	:	Maloney and Pagliai	:	Amer. Wood Preserv. Assoc., Wash., D.C. 1977.
Some companies that design or build wood-preserving plants.	:	Forest Products Laboratory	:	FPL 75-013. 1975.
Treated wood foundations for buildings	:	Gjovik, L. R., and Baechler, R. H.	:	Forest Prod. J. 20(5): 45-48. May 1970.
Preservative treatments for protecting wood boxes.	:	Verrall, A. F., and Scheffer, T. C.	:	USDA Forest Serv. Res. Pap. FPL 106. 1969.

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